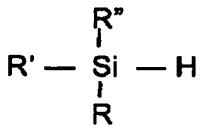
CLAIMS (with indication of status):

1. (Currently amended) A method consisting essentially of making a stamp for microcontact printing, said method substantially eliminating pattern distortion of said stamp formed as a result of said method, said method consisting essentially of

inserting an blend of polysiloxane oligomer-siloxane monomer elastomer reactive-mix into an enclosed mold,

said monomer elastomer reactive-mix containing momomeric moieties selected from the group consisting of hexamethylcyclotrisiloxane, octamethylcyclotrisiloxane, decamethylcyclotrisiloxane, octaphenylcyclotetrasiloxane, diphenylsilanediol, trimethyltriphenylcyclotrisiloxane, vinylmethylcyclosiloxanes, trifluoropropylmethylcyclosiloxanes, methylhydrocyclosiloxane, hexamethyldisiloxane, divinyltetramethyldisiloxane, tetramethyldisiloxane and containing polydimethyl siloxane oligomers with silyl vinyl groups ($-Si-C=CH_2$) and polydimethyl siloxane oligomers with silicon hydride groups having the formula:



wherein R, R', R" are methyl and phenyl, vinyl and hydrogen, which will react with the vinyl groups in the presence of a catalyst to cross-link into a rubber material;

retaining said blend of polysiloxane oligomer-siloxane monomer elastomer reactive-mix in said enclosed mold to maintain a precise dimension during a two phase curing process comprising: substantially curing and crosslinking said blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix in said enclosed mold for a period of time ranging from in excess of one hour to about one week, at a substantially constant temperature to form an article, said constant curing temperature also being the end-use temperature of a stamp to be formed from said article formed from said blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix,

wherein the pattern geometry of said article so-formed is fixed at end-use thermal conditions and is not distorted,

followed by a subsequent cure of said substantially cured blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix in said enclosed mold at a temperature of from between about 50 °C and 120 °C, which curing temperature is higher than said substantial end-use temperature of said stamp to be formed from said article formed from said blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix and is sufficient to provide required dimensional integrity for pattern faithfulness and said subsequent cure is sufficient to harden said elastomer reactive mix to a desired elastic modulus,

said two phase curing in said enclosed mold preventing permanent shrinkage and maintaining precise dimensions of said stamp to be formed from said siloxane polymeric elastomer reactive mix;

removing said cured article formed from said blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix from said enclosed mold after completion of said two phase curing process and forming a microcontact printing stamp therefrom, said microcontact printing stamp, as a result of said two phase curing steps in said enclosed mold having minimal pattern distortion, being a flexible and soft elastomeric stamp.

2.(Canceled) The method of making a stamp for microcontact printing defined in claim 1 wherein said elastomer reactive material is a siloxane.

3. (Canceled) The method of making a stamp for microcontact printing defined in claim 2 wherein said said siloxane is cured to fix its geometry while at or near the intended final use temperature, followed by a higher temperature step to harden said siloxane, without substantially inducing geometry changes to said stamp and pattern.

4. (Canceled) The method of making a stamp for microcontact printing defined in claim 1 wherein said blend of polysiloxane oligomer-siloxane monomer elastomer reactive mix in said enclosed mold is a vinyl addition-type siloxane two-component mixture.

5. (Cancelled) The method of making a stamp for microcontact printing defined in Claim 2 wherein said siloxane is room temperature curable.

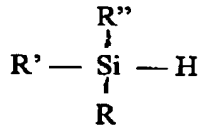
6. (Cancelled) The method of making a stamp for microcontact printing defined in claim 1 wherein said elastomer reactive material is selected from the group consisting of siloxane systems, epoxy systems, acrylate systems, polyurethane systems, polyphosphazine systems, styrene copolymers.

7. (Previously Presented) The method of manufacturing a flat panel display where thin film transistor (TFT) and wiring dimensions contained therein are microscopically small and registration of subsequent layers of such display is within microns over many inches, using the method defined in Claim 1.

8) (Previously presented) The method of manufacturing a microelectronic pattern using the method defined in Claim 1.

9) (Canceled) The method of making a stamp for microcontact printing as defined in Claim 4 wherein said siloxane system contains monomeric moieties selected from the group consisting of hexamethylcyclotrisiloxane, octamethylcyclotrisiloxane, decamethylcyclotrisiloxane, octaphenylcyclotetrasiloxane, diphenylsilanediol, trimethyltriphenylcyclotrisiloxane, vinylmethylcyclosiloxanes, trifluoropropylmethylcyclosiloxanes, methylhydrocyclosiloxane, hexamethyldisiloxane, divinyltetramethyldisiloxane, tetramethyldisiloxane.

10) (Canceled) The method of making a stamp for microcontact printing as defined in Claim 4 wherein said siloxane system comprises polydimethyl siloxane oligomers with silyl vinyl groups (-- Si – C = CH_2) and polydimethyl siloxane oligomers with silicon hydride groups having the formula:



wherein R, R', R" are methyl and phenyl, vinyl and hydrogen, which will react with the vinyl groups in the presence of a catalyst to cross-link into a rubber material.